



Republic of the Philippines  
**DEPARTMENT OF THE INTERIOR AND LOCAL GOVERNMENT**  
DILG-NAPOLCOM Center, EDSA corner Quezon Avenue, West Triangle, Quezon City  
<http://www.dilg.gov.ph>

## **CENTRAL OFFICE BIDS AND AWARDS COMMITTEE**

### **BID BULLETIN NO. 01 October 31, 2018**

This Bid Bulletin dated October 31, 2018 is issued to modify or amend certain instructions as contained in the Bid Documents for Public Bidding for the **Development of Drug Related Data Integration Generation System with Fingerprint Matching System** under **COBAC IB No. 024 (G) s. 2018**. This Bid Bulletin shall form an integral part of the Bid Document.

<b>Page No.</b>	<b>Subject Matter</b>	<b>Item No.</b>	<b>Original Specifications</b>	<b>Amended Specifications &amp; Instructions</b>
87	Technical Specifications	Terms of Reference, Description Column	As indicated in the Bid Document	Please refer to the attached Revised (Terms of Reference)  Note: Please specify your Statement of Compliance ("COMPLY") for each line item in the TOR.

For further information, please call the BAC Secretariat at Telephone/Fax No. 926-6256/876-3454 loc. 5108.

For the information and guidance of all concerned.

**ASEC. RICOJUDGE JANVIER M. ECHIVERRI**  
Chairperson, COBAC

By:

**ATTY. JENA J. JAVAREZ**  
Vice Chairperson, COBAC

## **TERMS OF REFERENCE**

### **I. PROJECT TITLE**

Development of PNP- Drug Related Data Integration Generation System (DRDIGS) with Fingerprint Matching System

### **II. BACKGROUND**

In support to one of the current administration's priorities, which is to suppress illegal drugs, the Anti-Illegal Drug Information System (AIDIS) Project was formed. The AIDIS intends to come up with an online information system for data analytics that will facilitate the consolidation, reports generation, management and analysis of data and information related to illegal drugs nationwide. It is a cross-agency project spearheaded by the Department of the Interior and Local Government (DILG) with the support of Philippine National Police (PNP), Dangerous Drug Board (DDB), Department of Social Welfare and Development (DSWD), Department of Health (DOH) and Philippine Drug Enforcement Agency (PDEA). One of the five (5) related systems of AIDIS is the Drug Offenders Profiling System (DOPS), which is a web application that aims for the profiling of drug offenders information nationwide through the Drug Related Data Integration Generation System (DRDIGS) of the PNP. The responsible unit agency of the DOPS is the Philippine National Police through its city and municipal police stations. This Terms of Reference is for the development of PNP- Drug Related Data Integration Generation System (DRDIGS) Fingerprint Matching.

### **III. OBJECTIVES**

To attain the main objective of the Anti-Illegal Drugs Information System (AIDIS), which is to have an integrated information system that can generate reliable and accurate reports regarding drug offender's information that will utilize the Fingerprint Matching in the DRDIGS.

The specific objectives of the Drug Offenders Profiling System are the following:

1. To conduct a system analysis and design for the enhancement of PNP DRDIGS.
2. To effectively and efficiently utilize the Fingerprint Matching System for the DRDIGS that will enable the PNP organization to permanently identify drug offenders and use it for matching the fingerprints.

### **IV. SCOPE OF WORK**

The scope of work shall include, but is not limited to, the following:

#### **1. FEATURES**

It should provide the following features:

- i. Fingerprint Scanning and Collection
- ii. Fingerprint Cross Matching
- iii. Extraction of Minutiae Points
- iv. Matching of Minutiae Points

- v. Hit Detection
- vi. Report Generation
- vii. Security and Access Control
- viii. Audit Trail and User Logs

## 2. USER REQUIREMENTS

- i. It should have a dynamic Application Programming Interface (API) to access and connect in the DRDIGS and other PNP Application Systems, when applicable.
- ii. The user may register an account to access the system as approved by the administrator.
- iii. The authentication for the user log in must include fingerprint security.
- iv. The system has the administrative functionality for account management as well as for access control.
- v. The fingerprint scanner should capture single rolled or two flat fingerprints of the subject.
- vi. Capture and processing of fingerprint image:
  - 1. For the capturing of live-scan fingerprint images, the module shall undertake, among others, the following:
    - a. Record the fingerprint number for each fingerprint taken;
    - b. Identify and pinpoint the core and details of the fingerprint image taken;
    - c. Display the zone and the ridge patterns of the fingerprint image that is processed;
    - d. Incorporate a quality indicator;
    - e. Have automatic feature extraction;
    - f. Have automatic fingerprint pattern classification capabilities
    - g. Incorporate a date stamp on the fingerprint images taken;
    - h. Facilitate the capture of the fingerprint with the correct orientation and ensure that the ridges and core position are clearly visible on the display;
    - i. Facilitate the positioning of the core close to the centre;
    - j. Have the ability to capture images from different fingerprint sizes;
    - k. Support image enhancement
    - l. Capture fingerprint images at a resolution of at least 500 dpi;
    - m. Capture fingerprints as uncompressed raw images of 512x512 size and 256 grayscales;
    - n. Have the ability to capture fingerprint images clearly and not be affected by defects of the epidermis (outer skin);
    - o. Allow for real-time on-screen preview of the fingerprint images while performing the fingerprint capture;

- p. Have the ability to override the capturing of finger print images in case of when an applicant has physical defects.
  - q. A unique serial number, which is to identify the USB Device Descriptor of each Fingerprint Scanner (FS). Therefore, every FS is traceable and this is very important for government identity management projects.
2. The Module shall apply quality control to the fingerprint captured. It shall use image quality control techniques to:
- a. Monitor and assess the quality of the captured fingerprint images and process them automatically;
  - b. Automatically advise the user for the need to re-scan with the ability to allow for manual override the fingerprint images during the point of capture;
  - c. Capable to check the fingerprint sequence.
  - d. Show the Auto-Extracted Minutia.
  - e. Show the Auto-Extracted Skeleton.
  - f. Show the Auto-Extracted Core/Axis
  - g. Show the Auto-Extracted Zone Area (Area-Off/Area-On)
  - h. Auto-Classify the Fingerprint Pattern
  - i. The Module shall assess the quality of the fingerprint image taken and rate the image quality as "Poor", "Good" or "Excellent", or similar rating system
3. Data Storage
- a. The Module shall be able to produce output fingerprint images stored in an open format and the image format shall not be proprietary.
  - b. The fingerprint images for storage shall be compressed using FBI's Wavelet Scalar Quantization (WSQ) fingerprint compression algorithm of at least 15:1 compression ratio.
  - c. Able to generate fingerprint minutiae template and do export/import in the event of a very poor internet connectivity.
4. Fingerprint Capture Parameters
- a. Available fingerprint scanner capturing devices
  - b. Quality Control
    - i. Mandatory Quality Check
    - ii. Verify Mode (will do immediate verification against the captured fingerprint after capturing finished)
    - iii. Acceptable Quality
    - iv. Acceptable Minutiae Count
    - v. Acceptable Threshold
    - vi. Acceptable Clear Zone
    - vii. Acceptable Core Angle

- viii. Acceptable Core Position
  - ix. Background Subtraction
  - x. Auto Rotation
- c. Fingerprint Auto Detection
  - i. Calibration Times
  - ii. Finger Detected Ridge Value
  - iii. Finger Dark Enough Ridge Value
  - iv. FP Detected Threshold
  - v. FP Stable Threshold
  - vi. FP Stable Times
  - vii. Checking Background
- d. Fingerprint Info Display Setting
  - i. Show Core
  - ii. Show Ridge
  - iii. Show Zone Quality
  - iv. Fingerprint Enhancement
  - v. Show Minutiae
- e. Minutiae Creation/Match Parameters
  - i. Minutiae Format
  - ii. Limited Minutiae Count
  - iii. Limited Minutiae Size
- vii. The technology for the fingerprint matching must comply with the National Institute of Standards and Technology (NIST) using the following documentation :
  1. RES. NO 2013-310 Prescribing the Minimum Standards in the Specifications for Automated Fingerprint Identification System (AFIS) (*NAPOLCOM specs AFIS.pdf*)
  2. DOJ FBI CJIS Electronic Biometric Transmission Specification (EBTS) (*Master EBTS v10 - FINAL 20130702.pdf*)
    - a. American National Standards Institute/National Institute of Standards and Technology (ANSI/NIST) – Information Technology Laboratory (ITL) 1-2011 American National Standard (<https://www.nist.gov/programs-projects/ansinist-itl-standard>)
    - b. For Information Systems – Data Format for the Interchange of Fingerprint, Facial, and Other Biometric Information
      - i. July 2011 Update (*ITL2011\_July 2012 update.pdf*)
      - ii. July 2016 Update Latest Version (*ANSINIST-ITL 1-2011 Update2015.pdf*)
  3. IAFIS-IC-00110 (V3.1), Criminal Justice Information Services (CJIS) Wavelet Scalar Quantization (WSQ) Grayscale Fingerprint Image Compression Specification provides the definitions, requirements, and guidelines for specifying the

FBI/CJIS's WSQ compression algorithm. The document specifies the class of encoders required, decoder process, and coded representations for compressed image data. Latent images are not compressed.

(*WSQ\_Gray-scale\_Specification\_Version\_3\_1\_Final.pdf*)

4. Fingerprint Image Compression and the Wavelet Scalar Quantization Specification  
(*b27bc7bfe00070c4461693c181041efdfc26.pdf*)

- viii. In scanning the fingerprint, the fingerprint matching software will cross match and compare the fingerprint from the existing and available PNP related fingerprint database.
- ix. Verification application for managing biometric and demographic data with easy to handle candidate lists.
- x. The system should identify if the features extracted from the fingerprint of the new profile are matched or not.
- xi. The system must have a hit detection of fingerprints. It will notify the users if the sample has found a match or not.
- xii. It should be capable in real time and/or batch processing of identifying and matching the fingerprints of the drug offenders.
- xiii. The system must have a help and support page.
- xiv. The user can generate needed reports of the drug offender's information.
- xv. It should have a comprehensive searching module to easily filter the needed information that harmonized from the DRDIGS of PNP.
- xvi. It should have an audit logs to track all activities performed in the system and to monitor the user logs.

### 3. HARDWARE REQUIREMENTS AND FEATURES

The winning bidder shall provide two (2) units of fingerprint scanner for the testing purposes. The units shall comply based on the system requirements such as:

- Optical Fingerprint Scanner Technology
- Forensic-quality rolled and slapped (flat) fingerprints function principle, among other things.
- Single Rolls, Single Flats, Dual Finger Slaps and Two Thumbs fingerprint type
- With 500 dpi x 500 dpi +/- 1% average resolution
- With 256 grey levels grayscale
- With USB 2.0 or higher connectivity /interface
- Compliance with FBI IAFIS / NIST image standard / FBI EFTS/F for its format / conforming Quality Standards

**Standard Compliance intended for Police Authority with:**

-ANSI/NIST ITL 1-2007/2011 (with proof of Declaration of conformity & Interpol Implementation)  
-ISO/IEC FCD 19794-4  
-EFTS/F

- Fingerprint with FBI IAFIS Appendix F, PIV, FIPS 201, FAP 60 FBI Certifications or Fingerprint Device must be compliant with:
  - FBI IAFIS IQS (FAP45) (provide FBI Certification and Product Catalogue/Presentation)
  - FBI-PIV Certified
  - Should also support FAP 60 for future enhancement
- Having dimension that meets Interpol Implementation and AFIS Image Quality Specification Standard
- Fingerprint Image Size BMP Approximate of 155 Kilobytes
  - Comply with ISO 9001:2015 DESIGN, PRODUCTION AND ASSISTANCE OF BIOMETRIC SYSTEMS FOR THE CIVIL AND PUBLIC SECTORS
- Fingerprint Image Size WSQ Approximate of 10 Kilobytes
  - The manufacturer should present the list of references of global major implementation intended for Police Authority / Law Enforcement
  - Or it can be adjusted later on depending on the requirement of image size thru settings

Said units must also support the following features such as:

- Must support and compatible with the OS of the workstation.
- Must provide the necessary software (e.g. drivers)
- Must be able to detect fake fingers
- Must be able to scan different type and conditions of fingers either good or bad (e.g. pointer, thumb, dry, wet, blurred or scarred) without any problem
- Easy to use and user friendly (ergonomic design)
- Efficient use of storage by having small image size
- The faulty rate should be around of 0.03 % – 0.05%. Moreover, 99.99% can be remotely and locally supported
- Should have authorized Service center in Manila as part of hardware assessment
- User interface should have hand Pictograms with 12 three color LEDs to indicate scanning sequence and quality feedback to user/officer during acquisition
- Fast capturing capability (no initialization)  
No side effects through other light sources

#### **4. Software Requirements and Features:**

##### **i. WEB SECURITY**

The system functionality and interface should have the following characteristics pertaining to the Fingerprint Matching Technology:

- i. **Integration.** The system should integrate the related systems with different government agencies on the use of fingerprint matching.
- ii. **Flexibility.** The system should be flexible and dynamic. It refers to the ability of the system to adapt in possible or future changes in its requirements on fingerprint matching.
- iii. **Relevance.** It should provide a relevant information to produce a good result in decision-making relative to fingerprint matching.
- iv. **Adherence.** System should adhere to the policies and regulations of the concerned agencies on fingerprint matching.

## **7. PREPARATION AND PRESENTATION OF RESULT**

- i. Preparation of relevant reports and outputs are subject to DILG and/or PNP's comment and approval.
- ii. Presentation of the project to DILG and/or PNP through meetings or forums, as necessary.

## **8. TESTING**

It must conduct series of application testing. It includes test scripts and test results of the performed.

- i. User Acceptance Testing
- ii. System Integration Testing
- iii. Data Integration Testing
- iv. Penetration Testing (if needed)

## **V. DUTIES, RESPONSIBILITIES, REQUIREMENTS, AND EXPECTED OUTPUTS OF THE WINNING BIDDER**

### **1. QUALIFICATION REQUIREMENTS**

- i. The bidder should have a proven record of accomplishment with an experience in IT and Software Solutions, and Information Systems Development particularly on Fingerprint Matching Technology to the system of at least three (3) years within the Philippines.
- ii. Bidders must submit a "Certificate of Performance Evaluation" issued by at least three (3) existing Philippine clients with a satisfactory evaluation rating on timely delivery, compliance to specifications and performance, and warranty and after sales service.
- iii. Should be TOP 3 Players in the biometric market with more than 20 years of activities and project deployed in many countries all over the world as part of hardware assessment.
- iv. Should provide a certificate that the biometric device will not be phase out for the next 5 years. In the case of the introduction of a

new product (Dual finger), the backward compatibility will be ensured.

## **2. SOFTWARE SALES, AFTER SALES, SUPPORT AVAILABILITY REQUIREMENT AND OWNERSHIP**

- i. The Information System and corresponding maintenance and support services on Fingerprint Matching Technology thereof must be locally available, and if developed from another country, must be available through a local distributor that has the capability to provide local training and support services.
- ii. Disclose and turnover to the DILG and PNP all source codes, and agree to provide the government all Intellectual Property rights for the systems developed/enhanced. All materials conceptualized, designed and produced shall be owned by the DILG and PNP with full and exclusive rights on future use thereof both in the Philippines and internationally.
- iii. The winning bidder must sign to a Non-Disclosure Agreement (NDA).

## **3. PROJECT CONSTRAINTS**

The following constraints or requirements shall be noted:

- Services will be based on local IT standards and components readily available in the Philippines over the viable IT life cycle, as well as respective government guidelines.
- The Supplier shall take into account the existing hardware, software and current network system in the concerned agency, and adapt its installation and testing accordingly.

## **4. RESPONSIBILITY OF THE WINNING BIDDER**

The responsibility of the winning bidder are the following:

- i. Shall coordinate with DILG and PNP all activities that will be done related in the development of the system.
- ii. Shall be responsible for the timely delivery of outputs as indicated in this TOR.
- iii. Shall be directly reporting to DILG and PNP, and provide regular updates on their activities and outputs.
- iv. Shall ensure the availability of the software.
- v. Shall accept full responsibility for the services to be performed under this TOR for which they are liable to DILG and PNP.

## **VI. MAJOR DELIVERABLES**

1. Functional Fingerprint Identification and Cross Matching Software
2. Database Design and Structure for the integration of the Fingerprint Matching Technology System
3. Administration, Developers and User Manual
4. System Documentation
  - i. System Requirements
  - ii. Flowchart
  - iii. Entity Relationship Diagram
  - iv. Data Flow Diagram
  - v. Use Case Diagram
  - vi. Data Dictionary
  - vii. Gantt Chart
  - viii. Database Schema

## VII. TRAINING

1. The winning bidder must provide a technology training for all the technologies used in the project for the developers and technical staffs.
2. The winning bidder must also administer training for the end users and administrators.

## VIII. ADDITIONAL GUIDELINES

1. Comply with the policy on Application Development and Data Administration of DILG.
  - i. User Acceptance Certificate
  - ii. Vulnerability Testing Certificate

The said policy is available at this URL:  
[http://dilg.gov.ph/PDF\\_File/reports\\_resources/dilg-reports-resources-2015127\\_e5dedf32a5.pdf](http://dilg.gov.ph/PDF_File/reports_resources/dilg-reports-resources-2015127_e5dedf32a5.pdf)

## IX. SCHEDULE

The development for the Drug Offenders Profiling System should be completed within the four-month period (120 calendar days). The consulting firm shall submit and report to the DILG, together with the PNP, for the validation and approval of the deliverables of each activities, by the following the projected schedule below:

DELIVERABLES	DESCRIPTION	NO. OF DAYS
Planning	<ul style="list-style-type: none"> <li>• Data gathering</li> <li>• Understand user requirement</li> <li>• Project scope</li> </ul>	5
System Analysis and Design	<ul style="list-style-type: none"> <li>• Analyze the business process.</li> <li>• Prepare user requirements</li> <li>• Formulate system design</li> </ul>	10

50% completion rate of the system	<ul style="list-style-type: none"> <li>• Information System Maintenance</li> <li>• Data Harmonization with PNP DRDIGS</li> <li>• Fingerprint Scanning</li> <li>• Fingerprint Identification</li> <li>• Fingerprint Matching</li> </ul>	30
80% completion rate of the system	<ul style="list-style-type: none"> <li>• Comprehensive filtering and searching</li> <li>• Graphical User Interface Completion</li> <li>• User Experience Process Flow</li> </ul>	20
100% completed	<ul style="list-style-type: none"> <li>• Integrate RBAC and Audit Logs</li> <li>• System Generated Reports</li> <li>• Revisions and Modifications</li> </ul>	15
System Testing and Evaluation	<ul style="list-style-type: none"> <li>• Prepare test plan</li> <li>• Conduct system testing and evaluation</li> <li>• User acceptance</li> </ul>	10
Documentation	<ul style="list-style-type: none"> <li>• Completed system documentation</li> <li>• User and Training Manual</li> </ul>	10
Deployment	<ul style="list-style-type: none"> <li>• Prepare deployment strategy and plan</li> <li>• System deployment</li> </ul>	5
Trainings	<ul style="list-style-type: none"> <li>• Conduct trainings to the end users and technical staffs.</li> </ul>	10
Turnover the application system	<ul style="list-style-type: none"> <li>• Ownership of the system / output will turn over to the DILG and PNP</li> </ul>	5

*\*Recommended Schedule of Deliverables*

#### **X. WARRANTY**

Any error or fault in any of the services delivered shall be acted upon, resolved and/or replaced accordingly at no cost to concerned agencies within the one (1) year warranty of the system after the turnover and acceptance of the system. Provide for a warranty and defects liability period, wherein any system problem/bug encountered, within the approved program specifications, including revisions/amendments as may be agreed upon by both parties, shall be corrected/remedied/revised free of charge. Remote twenty-four hour technical support should be rendered to respond to system failures particularly on the user of Fingerprint Matching Technology in the system.

#### **XI. APPROVED BUDGET FOR THE CONTRACT (ABC)**

The procurement of the consulting firm shall be through public bidding. The approved budget for the contract is ONE MILLION AND EIGHT HUNDRED THOUSAND PESOS (₱ 1,800,000.00).

**Terms of payment shall be as follows:**

-Fifty percent (50%) of the Contract Price shall be paid upon the completion of the 50% systems development as per the recommended schedule of deliverables; and

-Fifty percent (50%) of the remaining Contract Price shall be paid upon the completion or final delivery of the project as per the recommended schedule of deliverables.

